

**Notice of Allowability**

Application No.

10/743,767

Examiner

Tom V. Sheng

Applicant(s)

SHIOMI ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 1/19/2007.
2. ☒ The allowed claim(s) is/are 1-13 and 15-35.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some\* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |  |   |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 5. <input type="checkbox"/> Notice of Informal Patent Application                     |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br>Paper No./Mail Date _____    | 7. <input type="checkbox"/> Examiner's Amendment/Comment                              |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|  | 9. <input type="checkbox"/> Other _____   |

***Allowable Subject Matter***

1. Claims 1-13 and 15-35 are allowed.
2. The following is an examiner's statement of reasons for allowance:

The invention is directed to a method for driving a display. A correction section reads uncorrected video data for the previous frame and the current frame from the memory and corrects the video data for the current frame. Further, a processing section corrects video data for the next frame based on the corrected video data for current frame so as to facilitate a grayscale level transition from the current frame to the next frame.

Independent claims 1, 12, 13 and 16 identify the uniquely distinct features "determining a resultant value based on a first drive signal associated with a first frame input at a first time and a previous drive signal associated with a previous frame input at a time previous to the first time" and "modulating a second drive signal associated with a second frame, input at a second time that is subsequent to the first time, based on the determined resultant value to produce a corrected second drive signal for a pixel, so as to facilitate a tone transition from the first time to the second time."

Independent claim 4 identifies the uniquely distinct features "wherein the previous, first, and second drive signals are embodied as one or more frames of video data, and the determining step further includes predicting a grayscale level reached by a pixel as a result of a grayscale level transition from previous video data of the

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previous drive signal to current video data of the first drive signal to correct the current video data of the first drive signal.”

Independent claims 10 and 26 identify the uniquely distinct features “the step of determining includes correcting the current video data so as to indicate a higher grayscale level than a grayscale level predicted as having been reached by the pixel in the grayscale level transition, if a determined grayscale level based on current video data and previous video data falls in a transition from a previous grayscale level to the current grayscale level.”

Independent claims 11 and 25 identify the uniquely distinct features “the previous video data and the current video data have a given combination of bit width that is set to a desired value, the desired value being smaller than twice the bit width of a next desired video data for the second drive signal, and the bit width of the previous video data is less than or equal to the bit width of the current video data, and a restricted bit width is stored so that the given combination of bit width assumes the desired value.”

Independent claim 19 identifies the uniquely distinct features “the correction section further predicts a grayscale level reached by a pixel as a result of a grayscale level transition from previous video data of the previous drive signal to current video data of the first drive signal, so as to correct the current video data of the first drive signal.”

Independent claim 27 identifies the uniquely distinct features “the correction section includes a lookup table containing grayscale levels for corrected current video data that is associated with combinations of the previous video data and the current

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video data; and a bit width of a grayscale level contained in the lookup table for the current video data is set to the smaller of a bit width of a grayscale level for the previous video data and a bit width of a grayscale level for the current video data.”

Independent claim 29 identifies the uniquely distinct features “the correction section includes a lookup table containing grayscale levels for corrected current video data that corresponds to a given combinations of the previous video data and the current video data; and which contains grayscale levels indicated by the current video data in association with other combinations.”

Independent claim 32 identifies the uniquely distinct features “the current video data and the previous video data stored in the memory have a combined bit width restricted to a given value; the control section adapted for altering bit widths of the current video data and previous video data in accordance with temperature of a pixel.”

Independent claim 33 identifies the uniquely distinct features “the current video data and the previous video data stored in the memory section have a combined bit width restricted to a given value; and the current video data and the previous video data stored in the memory section bit widths are adapted to be altered in accordance with a video data type.”

Independent claim 34 identifies the uniquely distinct features “the second driving signal is further composed of video data that is 8 bits wide for each of three primary colors; and one of the previous video data and current video data has its bit width restricted when stored in the memory, so that the previous video data and the current video data have a combined bit width of 10 bits for each one of the primary colors.”

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Suzuki et al. (US 2002/0140652), hereinafter Suzuki, teaches a liquid crystal display control circuit that performs drive compensation for high-speed response. Specifically, Suzuki teaches inputting an input image data to an edge filter to form a completed edge emphasis image data. Afterwards, an original image output data is inputted together with the completed edge emphasis image data to a dispersion processor to generate a corrected image output data. The display control circuit only involves a previous frame and a current frame. Suzuki does not teach nor suggest any of the above limitations.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V. Sheng whose telephone number is (571) 272-7684. The examiner can normally be reached on 9:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tom Sheng

AMR A. AWAD  
SUPERVISORY PATENT EXAMINER  
